making salt were described to me, the housewife depends mainly on trade salt. Meals never consist of more than one course. Plates, forks and spoons are owned by all households but people do not always use them. While boiling is the most common way of preparing food, bananas, yams and breadfruit are usually roasted. Meat is often preserved by daily smoking, sometimes for long periods. There is a rule against eating meat 'in lent' and this is kept very strictly, but probably for traditional religious reasons to be discussed later. The main drink with meals is a soup consisting of the water in which the vegetables and herbs were cooked.

Foraging. A good deal of plant and animal food is obtained from foraging, especially in the tropical rain forest which covers most of the Northern District. Among foraged animal foods I would mention especially grubs, frogs, snails, rats, bush eggs and lice. Foraged plant foods are especially valued during the dry season when roots, leaves and fern fronds may make up part of a meal. Savoury herbs and leaves, however, are collected at all times of the year. Some food plants, though growing in the forest, are owned by individuals so that the gathering of these plants may be better described as harvesting than collecting. The most important are the *taugu* and *pugu* nut, sago, breadfruit, wild fig, and fruiting pandanus.[4]

Hunting. According to Waddell and Krinks, about two man-hours weekly are spent on hunting (3.7 hours by men and 0.3 hours by women). Hunting patterns on the Mount Lamington foothills differ widely from those on the alluvial plains where kunai grass is widespread. On the foothills, there is hunting in reverted gardens and in very limited areas of virgin bush. The usual quarry consists of small marsupials and birds. If a pig is encountered, it is invariably a village pig whose owner has a claim to the carcase. The game population was virtually exterminated after the introduction of guns in the 1950s. In the kunai country, on the other hand, hunting land is abundant. The technique is by firing the kunai so that the animals can be shot when they escape. Such a hunt requires a large number of men who ring the burnt-over area. Not only marsupials but also pigs are killed, either by gunfire or by being roasted alive in the kunai grass. By no means all animals killed in the fire are retrieved. Fires tend to get out of hand and to spread over surrounding bush land which then is often covered with kunai grass and so is useless for purposes of cultivation.

Fishing. The supply of fish has suffered greatly with the introduction of snorkels after the Second World War, as this equipment enabled the Orokaiva to fish out their rivers almost completely in a very short time. Fish is still an important resource, however, in the lower reaches of the huge rivers which run through the Northern District: Kumusi, Ambogo, Girua, Sambogo, etc. In Inonda, the village studied by Crocombe and Hogbin (1963) and Waddell and Krinks (1968), 3.8 man hours per week are spent on fishing, mostly with spears, and the product is used not only for consumption but also for trade. (Inonda people also trade meat and bush eggs.) Many of the villages near the mountain, such as Sivepe, have very little fish. Apart from a few eels and crabs, the rivers contained a small supply of two-inch-long fishes caught in April with a small hand-net used as a scoop. (See Williams 1930:53 for description.)

Animal Husbandry. There are three kinds of domestic livestock: pigs, dogs and fowls. Every man still has one or more small dog which he uses for hunting

5: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

231 but which, as Williams says in his discussion on Orokaiva domestic animals (1930: 60–3), are all ultimately destined for the pot. The fowl population has likewise remained more or less constant for some time (e.g. about 30 in Inonda, 235 40 in Sivepe). The birds are useful not only as a source of meat and eggs, but also of cockerel feathers which are plucked and used for decoration on headdresses, spears, etc. Unlike the dogs, the fowls are no longer a purely [177] indigenous variety: they have been crossed with Rhode Island Reds introduced in the 1950s.

231 A few years before I did my fieldwork, the government began a vigorous campaign to eliminate pig husbandry from Orokaiva villages, in an attempt to [744] improve village hygiene. Though this campaign generally was not very successful, domestic pigs had all but disappeared from the villages where I stayed. Like the other domestic animals they were left to forage for food most of the time but were also fed with pieces of taro and other left-over food, as well as pawpaw, coconut, etc. They mostly slept under the houses, but were free to roam. Males [825] were castrated and females were fertilised by boars roaming in the bush. A close *quasi*-kinship link was assumed to exist between the pig and its keepers, and this was emphasised by taboos on eating a pig reared by a close relative. Techniques of domestication will be discussed below.

241 *Horticulture.* The Orokaiva word *pure* has at least two important meanings: 'work' and 'garden'. As elsewhere in Papua–New Guinea, the garden is a centre of sexual, social, religious as well as industrial activity.

The main product is taro which occupies perhaps nine tenths of the area. But a great variety of other plants are also found: banana, sugar-cane, edible pitpit, German taro (*xantosoma*), a few introduced vegetables such as pineapples, tomatoes, beans, and some sweet potato. Some trees may also be planted though these will not bear until long after the garden has been abandoned: breadfruit, *taugs*, coconut, areca. In addition there are always some herbs and medicines, and if the gardener is a professional medicine man there will be a great many of these. Yams are grown in separate gardens.

Very full data on the size of these gardens have been provided by Crocombe and Hogbin (1963) and Rimoldi (1966). A household tends to establish something like one and a half to two acres of garden per year. A garden is never used for more than one taro season, but as planting and consumption of the taro each tend to be stretched over most of a year, almost two years elapse between the clearing and final abandonment. This gives time for the bananas and sugar-cane to reach maturity too. Once a garden is abandoned, it is not used again for at least eight years or so. The usual swidden agriculture techniques are used, burning, clearing, careful removal of 'rubbish' remaining after the burning process, planting with a digging stick, periodic attention to weeding and heaping up of earth around growing taro, removal of corm-bearing bases of petioles of [242] mature taro for removal and planting in a new garden. The Orokaiva practise no irrigation, no form of terracing or drainage, no manuring, no measures against parasites. Sometimes a fence is made out of tree trunks to keep pigs from breaking in. This is usually done only after a pig has made its first expedition, and only on the side where the pig entered.

While planting and harvesting proceeds almost throughout the year there are [132] important seasonal variations that should not be ignored. There is a dry and a

[TEXT CONTINUED ON PAGE 22]

177
178
342
343
245
231

S: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

TABLE II/4

CHANGES IN HOUSE DESIGN, HOUSE CONSTRUCTION AND DOMESTIC AMENITIES IN SIVEPE, 1936–1966
(Comparison between standards reportedly applied on four successive village sites)

Elements	1. *Pusahambo (pre-war)*	2. *Pumba (between war and eruption)*	3. *Old Sivepe (after eruption, until 1965)*	4. *New Sivepe (1966)*
Floor level	Raised on posts	Raised on posts	Raised on posts	Raised on posts
Flooring material	Betelnut, wide gaps	Betelnuts, no gaps	Some betelnut, some blackpalm	Some betelnut, some blackpalm
Windows	No windows	No windows	Small windows	Large windows
No. of rooms	Three	Three	Three	Three
Walling material	Split sago	Split sago	Split sago	'Timber'
Nails: Framing	Nil	Younger people	General	General
Nails: walls	Nil	Nil	Nil	General
Shrubs	Beside houses	Beside houses	Beside houses	To mark paths
Betelnut	Planted	Planted	Planted	Planted
Cocunut	Few	More	More	More
Waste disposal	In gully	In gully	In gully	Rubbish holes
Pigs	Present	Present	Present	Absent
Hen houses	Absent	Absent	Absent	Pens built
Lavatories	Absent	Absent	A few	General
Floor area	'Very Small'	'Bigger'	'Much bigger again' (200 sq. ft.)	'Big' (375 sq. ft.)

into two separate realms: the human world, comprising villages and gardens, and the wild world, *ariri*, the bush, where everything is dangerous and inimical to man, and where the ghosts (*sovai*) have their abode. The area friendly to man is thus reduced to a small space, whereas the area hostile to man is an infinite expanse. Thus man is forever at strife with all but a small circumscribed portion of the universe. The myth of pig-man restates in another idiom the message of the primal theft of the piece of string.

3. *Domestication of Pigs: Husbandry*

Separate though the worlds of bush and human habitation may be, Orokaiva still view them as linked by an exchange relationship. One side of this transaction has already been described in detail by Williams (1930:267ff.). A man becomes a *sovai* at death. As such he enters into various animals. An important class of *sovai* (though not all *sovai*) can be recognised by the abnormal appearance or behaviour of the animals into which they have entered. They are greatly feared and are thought responsible for a great variety of misfortunes. Thus if a man fears the supernatural dangers of the bush, he does not regard these as generated by anything inherent in nature, but as introduced by dead hunters and killers who retain their human wilfulness while deprived of human bonds.

In certain special circumstances bush creatures may re-enter the protected confines of human society. The most important example of such a reverse transaction between bush and village is furnished by the domestication of pigs. There is, of course, no zoological difference between wild and domestic pigs, both being scientifically known as *sus papuensis* and known in the vernacular as *o ohu*. The myths explaining the domestication of pigs are all very simple. In one of them the first pig ever killed by man was a sow marauding the taro gardens. After killing her, men heard a mournful song by the root of a tree. It was sung by her piglets who were thirsting for their mother's milk. The piglets were taken to the village and became the first domestic pigs. The piglets' song, of course, is still known.

The breed has continued until today, being constantly replenished by foundlings from the bush. As boars are castrated, sows mate in the bush. In the bush around Sivepe some wild boars must still exist, though these are probably the offspring of tame sows who have escaped to the bush.

The domestication of piglets is a complicated task which I once saw performed at Inonda. When a piglet was found in the bush it was given for rearing to an old woman who was an expert at domestication. She made a medicine by chewing together betelnut, *hingi* (a peppery leaf) and *arifa* root (in Sivepe *akore* root would have been used). She spat this medicine into all body apertures: mouth, eyes, ears, nose, rectum, genitals. A few hours later she carried the piglet to a creek, washed it and placed it in a string bag (*eti*) in the same way as a baby. Five days afterwards, the piglet could be seen walking through the village on a leash, held by its 'mother'. After two or three weeks, it was regarded as domesticated.

The medicine was intended to seal the piglet from *sovai* who might otherwise enter it. As a bush animal, the piglet was considered impure, dangerous, and liable to spirit entry. The Orokaiva believe that it is *sovai* contamination which

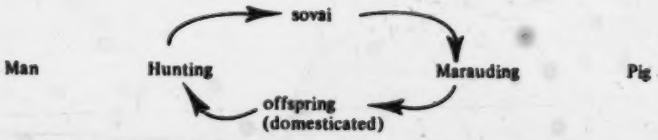
5: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

231 distinguishes wild pigs from domestic ones. Once the spirits have been effectively
825 expelled, the piglet *thereby* becomes domesticated. This means that it obeys the
[789] calls of its mother. It learns to forage in disused gardens but keeps away from
[775] growing taro. The piglet will not stray too far into the bush but comes home every night to be fed, and goes to sleep under the house.

Yet some danger of *sovai* contamination always remains. It may happen that a village pig stays away in the bush and does not return when its mother calls. The mother keeps on calling it from day to day, still hoping that it will return, but after a fortnight or a month it is accepted that the pig has gone wild. Or else it does return when the mother calls but returns to the bush as soon as it is fed.
[775] In all such cases people say that the spirits took the pig away and did not send it back.

These facts suggest an exchange cycle arising out of the following four notions: (1) A man turns into a *sovai* upon death. (2) *Sovai* entering pigs maraud gardens and attack humans. (3) A pig is domesticated by the driving out of the *sovai*. (4) Meat from the domesticated pig provides man with the *ivo* (strength) he needs for hunting pig. (This *ivo* makes man a dangerous *sovai* after death.) This cycle may be expressed as follows:

MODEL 22



431 Live domesticated pigs are not used a great deal for the mediation of social
231 exchange. Certainly the rearing of pigs enters widely into the exchange of prestations between the sexes, for it is a task women customarily perform for
[462] close kinsmen (husbands, brothers, sons). In addition it is not infrequent for piglets to be given to relatives and friends from different villages whose wives then rear them 'for the owner'. Salisbury (1962) noted a similar custom among
437 the Siane, but here the purpose was somewhat different. The Siane have feasts
231 at which 150–200 pigs are slaughtered. Here the recalling of lent pigs is an essential prerequisite for the holding of a feast and, indeed, feasts on this scale
[171] would be impossible unless the task of rearing was distributed among several villages. Orokaiva feasts involve far fewer pigs (seven, at a Hohorita feast, seemed normal). Admittedly, lending pigs for rearing does have an obvious economic advantage, similar to the one suggested by Salisbury: once the owner has lent a piglet to a man from another village, he finds it easier to resist demands that will be made from time to time by relatives who 'urgently' need a pig for purposes too compelling to ignore.

Basically, however, this institution is just another way of mediating social exchange. By lending a man a piglet one starts a partnership. The partner does not usually return the pig he has reared but instead gives a piglet which will in turn be reared by the original donor. One might say that the offspring of the donated pig returns to its 'mother's' village. In this way the institution of

5: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

pig-lending becomes a simulation, on a minor scale, of the customs of marriage exchange, where a reciprocating pair of groups send back and forth a female marriage partner at intervals of one generation.

This assimilation of domesticated pigs to human members of exchanging social groups is emphasised by much customary behaviour towards these pigs. This behaviour goes beyond co-residence in the same house and the use of kinship terms of reference, but extends to strict taboos of wide range prohibiting the eating of domestic pigs by their rearers.

4. *Wild Pigs as Victims*

Williams (1930) describes in detail the techniques that are, or were, used for the hunting of pigs: the use of spears, pig-traps, and the collective burning of *kunai* grass to drive pigs towards their pursuers. I myself witnessed such a burn, in which three villages participated as owners of the burnt-over land (Inonda, Urio, Musou) as well as some hunters from Ajoro. The myths explaining the origin of the various techniques of hunting and of cooking the meat do not enlighten us greatly in the study of exchange, except to confirm a point already made in a previous chapter: the *dema* figure who is remembered as having 'given' a certain technique to mankind, is invariably described in the myth as the first *victim* of that technique. The ritual of killing is a very simple one: it consists in calling out one's clan name before striking the fatal blow. This is supposed to give the hunter the strength (*ivo*) he needs in order to kill. Both killer and victim are thus symbolically identified with a primal ancestor.

The killer of a wild pig is not bound by the same ritual restrictions as the killer of either a man or a domestic pig. Williams states that he found no rule prohibiting a man from eating his personal quarry. Nonetheless, I found that in practice the meat of the wild pig virtually always serves some purpose of exchange-sale, barter or the mediating of social relations. The two wild pigs killed by Inonda men during the hunt to which I have already referred will serve as an example.

Killer A presented his pig to his mother's brother who lives in Ajoro. Killer B presented his quarry to killer A, who is B's brother's wife's brother. A distributed most of the joints to men and women from Inonda (including B), and to two Ajoro men who had returned from the hunt empty-handed, but kept one joint. A's mother's brother kept part of the animal he had been given but distributed the rest of it to his Inonda relatives, including A., as well as several affines. In the end everyone in Inonda had received some meat, but sometimes this meat had gone through several hands. For instance, A's sister did not receive meat from the animal her brother had killed, but from the animal her brother received as a present. Her brother gave several joints to B and it was from one of these joints A's sister was able to eat, because B gave it to his own brother who was A's sister's husband.

After this set of circuitous transactions the fires were lit. I noticed that only some of the meat was boiled but that most of it was smoked for later use, In fact only a fraction of the two slaughtered pigs was eaten that night. The smoked meat was kept for a variety of transactions. In line with the modern trend, these included sale at the market, but there were also traditional prestations, e.g. a gift

5: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

to a man who had lent an ornament for a recent ceremony. I was told that meat is sometimes kept for 'months' so it can be offered at a feast or used to discharge an obligation. The housewife smokes the meat over the fire every day so that, after a while, it becomes very 'strong'; the 'stronger' it is, the better.

While the economic motivation in the final disposal of the joints is plain enough, it is less easy to understand the elaborate exchanges immediately following the killing. There are no taboos that could explain why these exchanges were made. One might, of course, account for the whole series of gifts in the same way as I accounted for the taro gifts made between close associates: as a means of maintaining a quasi-commensal kind of social relationship. But such an explanation obscures an important difference between gifts of taro and pig meat, namely that gift taro is usually only a small part of the harvest, whereas it appears to be regular practice (even though not supported by taboo) to give away *all* the meat of a pig one has killed. There is a strong, empirically demonstrated, preference for eating pork that has been *given* rather than pork that has been personally killed.

The essential difference between taro and pork, as perceived by the Orokaiva, has already been discussed in a previous chapter. The difference is that taro is regarded as a staple food to keep men alive, whereas pork is regarded as a food of special power enabling men to succeed in tasks of great difficulty, in which success is always precarious. Pork has a special power or *ivo*. The reality of this belief is obvious from field observation. Meat-eating arouses in the Orokaiva a mood of extraordinary festivity and gaiety. After meat, he shows an exuberance and excitement Westerners display only when they have drunk a good deal or are 'turned on' by mild drugs. While one can think of biochemical causes for the Orokaiva behaviour, they explain this excitement themselves by referring to the *ivo* or spiritual qualities of meat.

These beliefs do not, in themselves, explain why it is considered better for meat to be given rather than consumed by the killer. They do, however, carry us back to the myth – already considered in detail – by which Orokaiva explain the origin of human *ivo*. *Ivo* was personified in Pig-man Totoima until his son slew him and cut his body into pieces. These joints, shared out among men, made the people multiply so that men are now spread throughout the world. The important point to note in this myth is that *ivo* did not come from the mere eating of the meat, but from the sharing out, following by the eating. If *ivo* is to be attained, it has to be through the re-enactment of the myth, which means not only the eating but also the sharing out. This sharing out is always done by cutting a pig into the very same joints as those into which the dead Totoima was dissected. Hence pork – whether derived from a wild or a domesticated pig – is magically most effective if it is a gift.

5. *Domesticated Pig as Victim*

Pig meat provided at the more important ceremonies of the Orokaiva comes far more frequently from domesticated than from wild pig. One reason for this is obviously practical: the more important ceremonies require very intricate planning in many spheres. The meat supply, which is a crucial requirement for such ceremonies, cannot be left to chance, though wild pork can usually serve to

S: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

add lustre to a feast or to economise on domestic pig. Informants told me that for most ceremonial purposes, wild and domestic pig are interchangeable. In general, therefore, one may say that pigs are reared in order to provide a bigger and more dependable supply of pork. I was unable to discover any instance of a rule requiring *only* wild pig to be used for any kind of ceremony and declaring domesticated pig to be unsuitable. On the other hand certain ceremonial gifts of pigs are made between affines, where a rule stipulates that the pig *must* have been reared by a particular person – the bridegroom's sister or the bride's mother. Such instances have to be carefully studied, as they indicate that the value of the meat transferred in the transaction may sometimes be derived partly from the labour expended by particular persons who reared the animals.

We have already pointed out that some rudimentary sacrificial notions enter into a hunter's action towards his quarry, but it is only the killing of domestic pigs that can be described as *sacrifice* in the full conventional sense of the term. Williams (1930: 61) applies this term to the slaughter of pigs but provides no analysis of the sacrificial process. Such analysis is not altogether straightforward, as the anthropological study of sacrifice has hitherto remained confined to the application of two models: one derived from Robertson Smith after the analogy of Christian *communion*, and the other derived from Mauss, (1968: 193–307) whose chief inspiration seems to have been the doctrine of *piaculum* among the Brāhmanas (viz. Mauss 1968: 352–4). The wide applicability of Robertson Smith's model has recently been well argued by Stanner (1960–3) and Bellah (1964), while Mauss' model has been enshrined by such brilliant ethnographic applications as Evans-Pritchard's study of *Nuer Religion* (1956).

These two models have a great deal in common, but differ in final destination of the victim and the postulated aim of the sacrifice. As Evans-Pritchard has pointed out (1956: 275), the aim may be to keep the god away or get rid of him (as in Nuer piacular sacrifice), or to establish union or fellowship with him (as in Christian communion, and in Australian *intichiuma*).

Neither model appears to be very appropriate to Orokaiva sacrifice, as it is not clear at all just who the god is to whom the sacrifice is being made. The only divine agency that seems to appear in pig sacrifices, including the major feasts, are spirits, loosely described as belonging to the 'ancestors'. These do not appear to be specific personalised ancestors but seem to be identified with the demigod, or *dema* who instituted the feast, as well as with other *dema* who introduced the various products used at the feast as gifts, ornaments and the like, as well as with clan and lineage ancestors who are responsible for the well-being of the land. A big feast seems to involve the whole pantheon. If this were all, one could classify Orokaiva sacrifice as aiming definitely at communion, as the ritual preceding the feast and during the feast quite clearly has the effect of drawing the divine beings down into the village, and making them enter the persons of the celebrants who behave as though they are possessed by these spirits.

But in addition one must often regard the sacrifices as being made, in a very real sense, to the guests. There are of course pig sacrifices where communion with the god is the only or predominant purpose. For instance, it is customary to sacrifice a pig when new taro fields are prepared for planting and the flesh is shared between the men of the local clan group. Here the purpose is no doubt to bring about an identification of the men with the original ancestor who first

5: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

574 796 763 628 It is emphasised even more strongly by the curious symbolism of the ritual death of the feast-giver. Once the food is collected and heaped up on a platform in the village, a message is sent to the guests. This message takes the form (in Hohorita) of a report that X (the giver of the feast) has a big sickness, and that 'he died last night' or that he 'will die today' or 'will die tomorrow'. The message is made to sound realistic: 'a tree was cut and hit him on the head; he is nearly dead.' One informant told me that he was at first actually deceived by it.

The effect of the message is to oblige the guests to interrupt whatever they are doing and come at once, as they would in the case of a death. But it also has a clear symbolic significance in that it equates the feast-giver with the victims to be immolated at the feast. This notion is found in other Papuan cultures, e.g. the Kiwai, who told Landtman that men actually die shortly after they have given a feast (1927: Ch. XXIV). A feast, in any event, signifies the entrance to the world of death and the ancestors.

574 796 628 At a feast two totally different types of food distribution take place. Cooked vegetables and meat are handed to the guests by the women of the host group in front of their private houses, and raw vegetables and meat are hurled at the guests by the men standing on platforms in the public area of the village. The women serving the meal behave with the ordinary propriety of Papuan hostesses, whereas the men, though actually rather careful in apportioning the tied heaps of taro and the joints of pig meat in accordance with the prominence of each group and group leader, put on prankish, irresponsible, abandoned, even insulting acts, and start meat fights at which the blood runs over the bodies of the recipients.

● [231] The pigs used to be slaughtered ceremonially, 'a number of pigs being set in a row and struck simultaneously' with a spear (Williams 1930:61). They are butchered on a platform, the joints being invariably the same as those into which the body of Totoima was cut up. The giver of the feast enacts a ritual for the first-born sons of each family, passing them under his legs and then allowing them to eat of the heart and innards of at least one pig which are placed, still dripping with blood, inside the feast house. It is stipulated that the pig from which these parts are taken has to be killed by a 'father or brother' of the first-born and that the organs have to be extracted by the killer. This ritual, performed in Hohorita in 1966, is a fairly precise re-enactment of Totoima's murder of his son. It emphasises the identification of the feast-givers with Totoima. Although this ritual does not directly involve the guests, it can be performed only in the presence of guests, a curious fact that is adequately explained by the theoretical argument I presented above (Section 5).

796 574 782 The evidence given in the last few pages indicates that Orokaiva pig sacrifice is a form of communion with primeval beings. Certainly the men, after a ceremonial preparation of several months, have reached a psychological state of identification with the ancestors at the moment of sacrifice. There are no professional sacrificers among the Orokaiva, but all the men involved in the feast have, by the ritual exercises preceding the feast, developed *rapport* with the sacred world. Prior to sacrifice, the pigs are offered up to the clan ancestor by the calling out of the clan name. The fact that they are killed (or sacrificed) at all distinguishes the feast from an ordinary economic transaction, where the pig would serve as 'payment' for some gift previously received or a service rendered.

[769] [614]

5: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

his family are a necessary part of the process of assuaging the affinal family's anger. However, such one-sided payments do not in themselves set up a social relationship between affines among the Orokaiva. During this whole first phase of the marriage, the strictest affinal taboos are maintained, prohibiting, for instance, commensality between son-in-law and parents-in-law and their close kin. For social relations to begin, it is necessary for the bride's mother to rear a pig for sacrifice to the bridegroom. Unless she does this the son-in-law feels too 'ashamed' of the humiliations he has been through and of the anger shown to him for social relations to be possible. This sacrifice, too, has therefore an element of expiation. After this sacrifice, the taboos are relaxed and the mother-in-law attends a feast at which she *pretends* to eat. Ruth Craig (1969:189), who describes a similar pattern among the Telefolmin of the New Guinea Highlands, comments cogently: 'The second transaction, the return payment, initiates the affinal relationship and emphasises its chief characteristic, friendly reciprocity . . . The relationship starts as one of equality.' It is thus clear that model 27 provides an explanation not only of inter-village feasts and consanguineal relations, but also of the establishment of affinal relationships. On the social plane pig-sacrifice establishes positive reciprocity, while on the magico-religious plane it generates *ivo* for the participants. Reciprocity and *ivo* are thus homologous notions on different levels of conceptualisation.

REFERENCES

1 Durkheim wrote that a sacrifice is composed of two essential elements: an act of communion and an act of oblation (1961: 384). He distinguished sharply between representative or commemorative rites and piacular rites, according to the prevailing mood. The former are performed in a state of confidence and joy, the latter in a state of sadness, arising out of misfortune, evil omens, sorrow or fear (*ibid.* 434–5). Evans-Pritchard (1956:275) made a somewhat similar distinction, though perhaps a less subjective one, between 'communion' (involving a desire to be close to God) and 'piaculum' (involving a desire to keep God away or get rid of him).

The phenomena described in this work, though aberrant from the viewpoint of the Durkeimian and Evans-Pritchard models, are fairly widespread in Melanesia. For instance, Lane, describing pig sacrifices on South Pentecost, points out (1) that sacrificer and sacrificed pig merge and share identity; (2) that the meaning of the offerings is 'clarified by reference to the way in which a special formal friendship is instituted between two men' (1965: 267). The Mae Enga sacrifice pigs to a ghost when that ghost is suspected of causing misfortunes. But half or more of the meat, sometimes all of it, goes to maternal kinsmen as the ghost is always considered to belong to the uterine line (Meggitt 1965*b*: 112–3). Elements of communion and piaculum are both present, but also a need to influence critical social relationships.

2 For a detailed discussion of myths related to the differentiation of species, see Lévi-Strauss 1964.

3 For details on the effect of the Mount Lamington eruption on the Sangara tribe and the founding and development of Hohorita, see Schwimmer 1969.

4 A fuller discussion on Orokaiva leadership will be found in Reay 1953, Schwimmer 1967.

5: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

824 772 partners, while objects of mediation are not imaginary and magical, but have a real existence. I shall deal with these two aspects in turn.

3. *Coconut as an Object of Mediation*

824 [252] [262] [272] [431] Coconut has several culinary uses: it is eaten raw; soup is made of the flesh; the squeezed flesh produces coconut cream in which taro and delicacies such as river crabs may be cooked. Young coconuts are cut open at the top and used for a refreshing drink. Coconut is reserved for two kinds of everyday food gift: cooked dishes offered to guests and young coconut offered to visitors on arrival. Waddell's figures for coconut transactions are surprisingly low (less than 1 lb. per week disposed of in an average household). In Inonda, where the climate favours the coconut, there has been sporadic commercial exploitation of the nut.

[574] Coconuts are also a feasting food. At ordinary harvest feasts and bridewealth payments they are seen on display platforms along with taro and other [262] vegetables. Williams (1930: 44) reports that they used to be placed under a taboo when a large feast was pending. I have already mentioned that at mortuary [764] feasts they are the principal object of mediation between the plant emblem group of the deceased and the village which has provided services to the deceased at the time of death (See Williams 1930: 223–6). I saw a variant of this ceremony at Hohorita in 1967. The plant emblem groups of the deceased couple provided massive gifts displayed on a platform: feast taro, tins of fish, cartons of flour, corned beef in tins, sugar-cane, pots of cooked vegetable food, small bags of salt, smoked meat, a dead pig suspended from a stick, rice, bread, an abundance of betelnut and carved taro suspended from horizontal poles placed above the platform, while at least 1000 lbs. of coconuts, strung to poles supporting each other diagonally, were seen everywhere among the other gifts.

[262] [146] Coconut is correctly believed to be a valuable adjunct to children's diet, as it provides first-class protein. The belief is explained by Orokaiva in a myth quoted by Williams (1928: 122) according to which the first child ever to eat a coconut grew miraculously overnight. Children do eat a good deal of it and it is also fed [231] regularly to dogs and chickens. Orokaiva also regard the effects of coconuts on [235] dogs as miraculous. As neither dogs nor children have any other substantial supply of first-class protein, the coconut relieves a very real diet deficiency. Whatever religious significance is given to the coconut is related to this.

824 778 Coconut oil is used as a cosmetic for hair and body, not only to enhance beauty but also for its magical efficacy. In a ritual performed over a man-slayer, a coconut was broken over his head as a purificatory and 'defensive' device in [302] the sense that the fluid would drive away dangerous spirits (1930: 175). With [789] the same end in view, the bodies of female initiands and certain ornaments worn at dances are rubbed with coconut oil (1930: 207). It would appear, in view of [881] this evidence, that the coconut is in general identified with *ivo* communicated by the dead to the living. The coconuts of a dead leader are thought to contain his *ivo* in a form which is communicable, not to his kinsmen to whom these [761] coconuts are taboo, but particularly to his affines. The quoted ritual uses of the coconut are all associated with some contact with the world of death, i.e. critical situations in which the living have been in contact with death and need the help [764] of the dead to obtain *ivo*. While this *ivo* is communicated, through the mediation

423 [224] [226] The only local hunting land held by Sivepo people is that held by individuals as gardening land. A villager may hunt or fish on the land held by members of any group in the village and in fact often strays further afield than this 'village land' without attracting the attention of other groups. A man may, without consulting others, invite a kinsman from another village to hunt or join in a fish drive with him but no hunting parties involve the assembly or co-operation of larger groups. A man wishing to hunt on the land of one of his kinsmen in another village would consult his kinsman first.

d. Livestock

235 [231] Apart from the game available to the hunter, there are only 2 sources of fresh meat available, the domestic pig and fowl. Six householders own a total of 15 fowls which were either bred or bought by their owner. They are valued mainly as an asset for times of feasting and only to a limited extent for egg production. They are allowed to run loose in the village during the day but are enclosed in shelters at night for protection against dogs.

231 [241] Like fowls, pigs are fed by women mainly on scraps but they find much of their food by roaming in the bush and grazing in old gardens. They have complete freedom of movement within or outside the village during the day and in some instances only are they housed in pens during the night. As a result, they are a constant threat to gardens which are not thoroughly fenced; their movements are a frequent source of dispute and require the gardener to exercise care in siting his garden and sometimes to devote considerable time waiting there to attack a pig which has been frequenting the area.

[431] [426] Of the 24 pigs or piglets claimed by 7 of the 12 householders, 15 were bred by them and the rest received in gift exchanges; none was inherited. The only longstanding debts admitted or claimed by members of the sample were in terms of pigs.

[146] There is little animal protein in the villagers' diet; some fresh meat and smoked meat or fish is purchased at Saiho market or from vendors travelling to the market - this source of meat seems to be quickly becoming reasonably accessible (E. Waddell: personal communication), but wild pigs - a very important source in many other Orokaiva areas - are rare and the area for hunting restricted. It would be feasible to take steps to modify any lack of animal protein by increasing stock numbers and improving their quality, but this would involve the introduction of new strains and, to maintain any increase or improvements, husbandry techniques would need to be refined.[1] At present parasites take

[657] [1] About 50 Berkshire boars were distributed to Village Constables among the groups affected by the Mt Lamington eruption.

231 some toll on growth rates, size and length of life. Sows are quite prolific, however, and litters of 6 to 10 piglets which survive weaning are common. Boars are not numerous but it is claimed that the owner charges no fee for their services.

[431] [435] It is doubtful whether improved breeding and husbandry could in themselves induce a significant increase in the consumption of meat by pig owners. Pigs are too scarce in this area to meet the existing demand and priority is given to the use of pigs for distribution as pork at feasts or for gift exchanges. Very often neither a man nor his close kin have a suitable pig available when needed and in one such instance a price of £20 was set by the owner of a pig in another village.

Any person who aimed to establish a herd of significant numbers for commercial purposes would probably need to divorce himself as a participant from the network of exchanges which involve pigs.

e. Economic trees

245 [131] [133] Although the village is 23 miles from Gona on the coast and over 1,000 ft above sea level, most economic trees are abundant. The average household claimed 62 trees from which crops are gathered in season.[1] In order of numerical importance these were coconut, breadfruit, areca (betel) nut, sago, pandanus and tauga-nut (Cycas media) trees. Each household also owned one or two citrus, puga-nut (Terminalia okaria), mango or barkcloth trees. [137] Sago does not grow wild in this area as it does on more low-lying land, but numerous small creeks provide sites suitable for planting. The 93 sago trees owned by Jegase and Timumu people are sufficient to meet the intermittent demand for sago for distribution at large gatherings or during the occasional period when there are limited amounts of the more common crops ready to be harvested from the village's gardens. Whenever a tree is harvested the owner is expected to share the sago widely with the other villagers whether they are his agnates or not.

Most villagers had lived in several villages, some of which are now abandoned, and had planted coconuts there which they still claim. They usually had similar numbers scattered over parcels of land where they had gardened in the past. Sixty-two per cent of all trees had been planted on the patrimonial land of the [428] person claiming the trees. A man often plants trees while gardening on the land of affines or matrilateral kin and these trees are inherited by the planter's son.

---

[1] These claims were not thoroughly investigated but their accuracy was checked on a number of sample parcels where householders claimed a specific number of trees of various kinds.

231

Most households keep a few domestic animals which may enter into the network of exchanges. Piglets and chickens are frequently given to others who then become responsible for them until maturity.

Table 4:3

231 245

Sivepa: economic trees and livestock, 1964*

Item	Average	Range
Breadfruit	26	12-42 trees
Areca	18	6-40 "
Coconut	18	6-29 "
Hausa	13	6-23 "
Pandanus	12	nil-32 "
Sago	9	6-15 "
Ringi	3	1-6 "
Mango	3	nil-4 "
Orange	1	nil-4 "
Pig	2	nil-4 animals
Dog	2	nil-4 "
Cat	1	nil-3 "
Fowl	1	nil-5 "

* Seven households.

245 249

(c) Cash crop gardens

Cash crop holdings in Sivepa have been described by Rimoldi (1966:83-93). Briefly, they comprise four individual holdings of mature coffee and a communal rubber planting of 2.4 acres, established in 1920. At the time of the survey, the rubber was being exploited by three adult members of the sample, together with some other villagers, on a rotational basis.

249 245

Since Rimoldi's survey, two unsuccessful attempts to establish individual rubber plantings have been made[1] in addition to a major attempt to establish a communal cash crop garden of 3.75 acres. This latter attempt, initiated in 1963, was finally abandoned in March 1964. It arose out of the village councillor mis-interpreting a DDA officer's description of the Yega scheme[2] at a meeting of the Higaturu Local Government Council and it proved, in terms of

[1] These were motivated by the opinion that trees in the communal planting were being permanently damaged by unskilful tapping.

[2] See Dakeyne 1966b.

241 592 bananas, corn, cucurbits and pineapple. The change is probably due to the storable qualities of yams and Xanthosoma and the comparatively small amount of attention required during growth by each of the crops showing an increase. The slight increase in corn plantings is due specifically to one man sowing a 'catch crop' in a garden cleared for coffee. The increase in the number of yam vines, on the other hand, is evident for several households. Although two households had no Xanthosoma, the others all exceeded the 1962 average. Of the four households which had more than 20 pineapple plants, two intended to market some of their produce.

245 592 231 (b) Economic trees and livestock

Table 4:10 shows the average holdings of economic trees and livestock per household. Following the change in the village site, all householders planted several coconut palms around their homes

Table 4:10

Inonda: economic trees and livestock, 1964

245 231 592

Item	Average per household* Bearing**	Planted in last year	Range (bearing only)
Breadfruit	3	nil	nil-18 trees
Areca palm	1	6	nil-8 "
Coconut	17	25	6-35 "
Hauna	1	nil	nil-3 "
Pandanus	5	nil	nil-16 "
Sago	4	nil	nil-9 "
Mango	1	nil	nil-2 "
	Total		Range
Pig	2		nil-1 animals
Dog	6***		nil-2 "
Cat	2		nil-1 "
Fowl	7		nil-3 "

* Eight households only. Information was not obtained for one household, a widow originating from Urio village. It is unlikely that she possessed rights to trees in Inonda (cf. Crocombe and Hogbin 1963:47), although her sons would.

** One householder claims extensive holdings of the specified trees on the lands of his home village of Hohorita. These holdings, which he did not exploit during the survey and which are excluded from the above figures, include: coconuts, 30; areca palm 10; sago, about 50; breadfruit 20; pandanus, at least 50. The claimant is the sole survivor of a large family killed when Mt Lamington erupted.

*** Including 3 pups.

245 and around the village paths and square. Subsequent to the construction of the copra-drier, one man planted 30 coconuts as a first step towards a larger holding of commercial coconut trees. In total, 198 trees were planted by the villagers during 1964. Five householders also established nurseries for areca palms during 1964 or planted them in gardens or the forest. Forty-nine areca nuts were planted, but some may not thrive as conditions at Inonda are less suitable for areca than for coconut palms.

231 All the domestic pigs owned in 1962 had been slaughtered prior to the 1964 survey. The local government council has stipulated for some time that domestic pigs should be penned and the Inonda councillor insisted that this be done. While the matter was under discussion a Jego'undi man died and the villagers decided to avoid the trouble of constructing pigpens by slaughtering all the pigs in a funeral feast. In November 1964, two women were given piglets by relatives.

Three households own a few poultry. One man killed or gave away several during the year. Two men and one woman own dogs, all used in hunting.

245 (c) Cash crop gardens

Three of the nine household heads have acquired holdings of mature coffee trees from their fathers (in one case a classificatory father). Two of these were reduced by a realignment of the road and the owners were compensated in cash by the Administration. Another man, who completed the farmer trainees' course at Popondetta agricultural station, began planting cocoa on land belonging to another lineage but was prevented from continuing by the mother of the future main rightholder[1] and in 1964 almost all the young trees were overgrown with weeds. However, the same man has planted 30 coconuts close by, unknown to the rightholder, and he intends to increase this to 100 palms at least. He has also cleared an area of his own land and planted 202 coffee trees, again as the first instalment towards a larger holding. The seedlings were given to him by his step-brother who had inherited 335 coffee trees.

In November 1964, four of the other six male household heads (including the three men with producing trees) decided to clear a large area of secondary forest for individual coffee blocks on the south bank of the Sambogo river. Two men began clearing, but work was suspended until an agricultural officer could approve the site and soil quality. By the time he visited in January 1965, the men had decided to plant instead in the food gardens near the village after these had been fully harvested. A fifth householder had

---

[1] Crocombe and Hogbin 1963:75.

of each in the food pattern, the proportion of total production of goods entering into the distributive system varies considerably, being related to both its degree of scarcity and the circumstances of the exchange.

Taro, being the staple food, is normally readily available to all households from their own resources and it is estimated that only about 4 per cent of total production enters into distribution.[1] Of this figure over half (56 per cent) circulates within the village, usually in the form of individual plates of cooked food distributed after the evening meal is prepared. These evening distributions are initiated by the first to prepare their meals, and offered to those returning later to help allay hunger until their own food is ready. While the principle of reciprocation applies on such occasions individual exchanges are not accounted for. This applies equally to areca, lime and pepper which are casually distributed at gatherings.

Of foods which are resorted to in the dry season, particularly sago and breadfruit, a much higher proportion of total production enters into circulation. Well over half the sago produced is distributed, specifically to compensate for assistance rendered in its working, but more generally in recognition of the general scarcity of food and of an obligation among those endowed to share their stocks with the less fortunate. Even in such instances, however, the manner in which it is distributed stresses particular relationships.

Custom requires that an individual should not eat the meat of a pig which he has reared himself or of wild game which he has caught. Consequently virtually all meat 'produced' enters into the exchange network, the only observed exception occurring when a pig breaks into a garden and the owner endeavours to kill it himself. Even in

[1] This figure was determined by using yield data gathered in Sivepe during 1961-62 by the FAO Survey of Indigenous Agriculture. It was estimated that 159 persons produced 298.1 tons of taro in one year from 51.4 acres. Assuming the acreages to be constant the FAO survey estimates an individual requirement to be 0.34 acres per annum and Rimoldi (1966:20) estimates 0.36 acres - a yield of 5.5 tons per acre is obtained. (This includes area under other crops, but taro accounts for 80 to 90 per cent of the total acreage and it is assumed this proportion is constant.) Thus one individual produces 1.87 tons from 0.34 acres.

Using the ratio 70:36 of adult to individual acreage (Rimoldi 1966:19) an adult produces 3.63 tons from 0.66 acres. The present survey covered 4,741 adult-days (man-days) or 12.9 adult years. A yield of 46.8 tons was therefore obtained. During the same period 1.9 tons of taro - 4.1 per cent of total production - was disposed.

[TEXT CONTINUED ON PAGE 187]

such cases much of the meat is distributed. However, if an individual wishes to organise a pig-feast he normally arranges an initial exchange of pigs with another person (frequently with one to whom he had previously given a piglet to look after until it matured), only killing and preparing the pig so received. Similarly, when a number of people are hunting together, whoever catches anything will immediately make a gift of it to another member of the party.

A small proportion of all transactions comprises goods given in charity to the old and infirm, one item falling specifically in this category being firewood. In such cases no return is expected.

(ii) Labour services. Of the sample's activity time, 3.9 per cent was directed to rendering labour services, almost all of which were on a non-monetary basis. As with subsistence produce an overall balance is registered but, since assistance is frequently reciprocated in the form of gifts of food, this fact conceals substantial internal variations within the sample. Of labour services acquired, 55 per cent were directed to two men: Umbahapa, the oldest person and a widower living alone, and Linton, the most active and highly regarded of the men,[1] while eleven individuals received no assistance whatsoever. By contrast all but one individual gave some assistance to a member of another household and no one person accounted for more than 12 per cent of all assistance rendered.

Similarly, as demonstrated by data on the composition of work groups,[2] the range of activities over which labour services are exchanged is very restricted. Eighty-eight per cent fall within the subsistence sector and of these over half occur in construction and sago-making. Among cash cropping activities assistance is commonly provided only in the pulping and washing of coffee (see Fig.10:1). Such services are therefore largely confined to activities where, firstly, the labour resources of the nuclear family are normally inadequate for their effective completion, as, for example, construction and sago-making and, secondly, immediate compensation is expected, as, again, in sago-making, in harvesting yams, helping with the exchanging and butchering of pigs, and hunting.

(iii) Storebought goods. While products of the external sector circulate through the gift exchange system, acquisitions predominate and comprise 88 per cent of the total volume transacted. Goods received from the researchers apart, most derive from relatives currently residing outside the subsistence village context - either as settlers at Sangara or in wage employment. The data incorporate

---

[1] For a detailed account of the activities of these two men, see pp.117-21, 126-7.

[2] See pp.114-17.

A, [See Category 851, pp. 117-119; Category 461, pp. 120-121; Category 812, pp. 126-127--Analyst]
B, [See Category 461, pp. 114-117--Analyst]

437 438 Table 10:16 outlines the geographical pattern of transactions of subsistence produce and labour services. In so far as produce is concerned, 96 per cent of all acquisitions and 89 per cent of disposals[1] are restricted to subsistence villages. Furthermore, almost all of these exchanges are effected within a radius of two miles of Sivepa, with the majority operating within the village itself. The small net outflow of produce away from the villages (of sales and gifts to relatives in paid employment) is more than compensated for by the dominant inflow of cash and storebought goods described above. Within this broad pattern specific variations are identifiable, from produce which is exchanged almost exclusively within Sivepa to that which figures largely in links with distant villages and points outside the village network. Within the former category are prepared dishes such as 'soup', foods eaten primarily as refreshments, such as sugar-cane, and those which dominate the diet during the dry season - sago and breadfruit. The latter category comprises the ecologically based transactions of areca, lime and fish. There is only a very limited demand for all three, however, and the volume and frequency of such exchanges is of little significance within the total pattern.

Taro and pig figure largely in inter-village exchanges, their movement being explicable primarily in cultural terms. One is the main source of carbohydrates, the other of protein and both serve as essential measures of wealth in food resources, therefore dominating ceremonial exchanges. In addition, custom dictates that a person cannot kill and consume his own pig but must effect an exchange with another. Since it is unlikely that two households in the same village wish to kill pigs at the same time, the transactions are largely made between individuals in different villages. [234] [262]

The movements of yams and Xanthosoma are somewhat anomalous: almost all acquisitions of the former originate within Sivepa but many of the disposals are directed to other villages, while with Xanthosoma the pattern is reversed, most acquisitions coming from other villages. Neither crop is particularly abundant and the extent to which each is planted is largely a matter of individual preference, but both are favoured because of their storage qualities. Their variable movement must therefore be viewed as an expression of individual rather than broad cultural or ecological considerations.

437 Disregarding, for the moment, absences involving assistance to settlers at Sangara, the exchange of labour services is restricted, effectively, to the inter-village level and, almost entirely, to Sivepa itself. In the case of subsistence activities it is not

[1] If transactions with researchers are disregarded this figure becomes 86 per cent.

[TEXT CONTINUED ON PAGE 219]

8: Waddell & Krinks E-4,5 (1964-1965) 1968 QJ23 Orokaiva QJ23

Postscript

231
654

Since this report was prepared, we have received news of some interesting developments bearing on the above conclusions.

In 1967 cattle-rearing projects were established under Administration sponsorship and guidance in several lowland Orokaiva villages, including Inonda. The Inonda people have sown and fenced several acres of pasture for ten cows, all of which are calving. The need for cash to buy fencing materials has stimulated several subsidiary projects. Peanuts, which are sold to the Department of Education, are grown on three acres of grassland ploughed by a hired tractor. Three families have piggeries and one earned $108 from one sale of young pigs during 1968. Another family is starting a chicken farm. Money is also raised from sales of copra, fish and food garden produce. In addition, six of the villagers and two kin from outside have subdivided an area of forest land into 20-acre blocks which are being prepared for planting cocoa and coconut trees. Our informant in Inonda acknowledges the great help received from the Department of Agriculture in encouraging and assisting in these projects.

It seems that the cattle projects were established in villages containing people known to the Administration for their entrepreneurial abilities. It is not known whether similar developments are taking place among the Mt Lamington Orokaiva.

placement cost is 19/6 for an axe and 12/6 for a bush knife, or a total of approximately £2.10.0 per family.

Most men own a shovel or two and three men have picks, but these were all collected from an abandoned army dump. They are used mainly for digging house posts and drains, though some use shovels to plant sweet potatoes. Most households have a grass-cutting knife for cutting grass around the houses and along the roads and a few men have some basic carpentry tools.(1)

Every man has one or more hunting spears which he has either made himself or inherited from a real or classificatory father. They are simple weapons and are said to take not more than a day to make. The councillor owns a gun which he purchased for £29.0.0.

Livestock

Domestic pigs and fowls are kept in small numbers. They are said to be owned by men, cared for by women, and eaten by all. They are killed only for feasts. Six householders have one pig each, one has three and one has seven. Only four households have fowls - one has twenty-four, one has two and two have one each. Eight of the pigs were bred by the owners, one was purchased for £1 cash, one was given by a man's former work-mate and six were given as piglets by relatives. Twenty-four of the fowls were obtained by barter, one by cash purchase, two by gift from a former work-mate and one by gift at marriage from a relative.

The only other domesticated animal is the dog, of which there are three in the village. Though only two men have dogs, they are used quite frequently for hunting.

Owing to the constant pressure on owners to make

(1) The total agricultural and other tools in the village are as follows: 10 shovels, 11 axes, 18 bush knives, 9 grass knives, 3 picks, 1 hoe, 7 hammers, 4 saws, 1 pinch bar, 3 chisels, 1 adze and an assortment of hunting spears. Total current replacement value is £86.5.0.

pigs and fowls available for feasts, there is no opportunity for the numbers of livestock to multiply, and demand always outruns the supply. Nor can the demand be met from neighbouring villages for they are beset with the same problem. Some European planters breed pigs for the local market and have no difficulty in obtaining £10 to £15 for pigs of moderate size to be killed for feasts. If the problem of the current customary obligation to make one's livestock available for feasting could be overcome, pig and poultry breeding for local consumption and local marketing would appear to be a fruitful source of cash income as well as of protein good.

Economic trees

The most important trees in the Inonda subsistence economy are sago, coconut, betel nut, hauga nut, breadfruit, and pandanus. Sago is used for food as well as construction, while the others are used for food only. Information on economic trees was gathered by interview only and, except in instances where we were able to check during the course of other work, they were not counted on the ground. Economic trees are usually planted on land held by the lineage of the planter, but as rights to them are sometimes transferred by gift and inheritance between individuals of different lineages, sub-clans and clans, many persons hold rights to trees on land held by descent groups other than their own. Apart from a right of access, rights in trees do not entitle the holder to any rights in the surrounding land.

In addition to the rights of those born in Inonda, some wives claim rights to use economic trees in their home villages. They do not claim exclusive rights to specific trees,(1) but rather the right to harvest some produce from trees held by their fathers or brothers. This right is usually exercised only in the event of a shortage of food from the husband's land, or if the wife is on a visit home. During our stay we observed two persons exercising such rights - one to make sago about three

(1) With the exception of one woman who had been allocated specific coconut trees by her father.

income derived from cash-cropping and trading. Prestige may be an even more important motivation to the acquisition of vehicles than it is with trade stores.

Other property

As shown in Table 3 the entrepreneurs have tools to the average replacement value of $30 and equipment associated with their cash-cropping to an average replacement value of $180 - an average of $210 per man. By comparison Orokaiva people of Inonda village had only about $13 and Sivepe village about $18 worth of tools and equipment per household.[1]

The entrepreneurs all had a range of consumers durable goods far beyond that found in villages. A and B owned bicycles worth about $50 each, A and D each had a radio which cost $60 and $47 respectively, and A and D also each owned wood-burning stoves costing about $70 each. The wife of C had a sewing machine which cost $70 (not listed in the table of tools and equipment as it is used only for domestic purposes). All had kerosene lamps and three of the four had clocks or watches. The average replacement value of the above items was in the region of $125 per man. It is estimated that possessions of this kind in Orokaiva villages in which we worked would average about $10 per householder.

The houses of the entrepreneurs are all somewhat larger than the average village house, and for many years B maintained two homes - one in his coffee garden and one in the cocoa garden. D's home is much more elaborate than the others and contains crockery, cutlery and kitchen utensils worth over $50 as well as beds, chairs, tables and curtains which are almost never found among villagers. A has a modern cocoa fermentary worth $500, B has a coffee drying store and trays, estimated worth $80, and C a copra drier worth about $100.

By comparison with other Orokaiva people the entrepreneurs have few livestock, at least partly because they damage the root systems of the coffee and cocoa trees. A, B and C had none at all and D kept thirteen fowls from which he hopes to breed for commercial egg and poultry production. Householders at Inonda and Sivepe, by contrast, kept an average of two pigs and two to three fowls each.

At the request of the entrepreneurs, details of their individual holdings of cash are not included in this paper and can only be made available to researchers or to others with the permission of the entrepreneurs. All four have savings accounts, the average

[TEXT CONTINUED ON PAGE 16]

[1] Crocombe and Hogbin 1963b:44-5, Rimoldi 1966:25. Other comparisons in this section are drawn from the same sources.

262 The principal food at Ombi-Tara is taro, while other foods of importance include sweet potatoes, yams, bananas and plantain, edible pit-pit (saccharum edule) and a wide variety of leaves and bush cabbages. Bread-fruit, pandanus, betelnuts, coconuts, pine-
[224] apple, pawpaw, watermelon and sugar cane are also eaten. The main sources of animal protein are provided by wild pigs, birds, flying foxes and the occasional cuscus. These add variety but provide
231 comparatively little food. The keeping of domestic pigs in vil-
657 lages has been outlawed for health reasons by the Ilimo Local Government Council which serves Ombi-Tara, but one old man, a former clan leader, kept three pigs under his house.

342 Readily available natural vegetation provides housing materials. Timber is used for the framework and walls, blackpalm or timber for the floor, and thatched sago leaves for the roof. Houses have an average life of about four years.

162 The population of Ombi-Tara by clan and location is presented in Table 8.

Table 8

Resident population of Ombi-Tara by clan and location, January 1966

Clan	Ombi			Tara			Blocks			Total		
	M*	F*	C*	M	F	C	M	F	C	M	F	C
Mumu	20	20	56	1	1	2	6	7	13	27	28	71
Kuei	3	3	7	11	8	20	-	-	-	14	11	27
Total	23	23	63	12	9	22	6	7	13	41	39	98

M* Adult males. F* Adult females. C* Children.

[166] [167] [464] Note. In addition there were seven Ombi men and six Tara men absent from the area working for wages, that is, roughly one man away for every three remaining at home.

657 Kumusi Division in which both Sivepa and Inonda are situated. It
364 would be wrong, however, to imagine that the tidiness which will strike a modern visitor to Orokaiva villages may really be ascribed to resident magistrates and patrol officers. Col. Kenneth McKay who visited these villages in 1906 reported that he saw village grounds absolutely bare of grass, being swept so clean that a man might literally eat his dinner off it (quoted in Monckton, 1922:
[467] 131-132). The sweeping of village grounds as a feminine duty is, indeed, already a subject of Orokaiva mythology.

Beaver, in the report already cited, sets out his concept
364 of village improvement as follows: "In the old days, doubtless,
361 the people were careful enough not to leave food refuse about the village for fear of sorcery, but a good cleared space around the outskirts of the settlement was beyond them. There is certainly a danger that in maintaining this cleared area the people may be tempted to build their houses closer together, but I have not yet found this tendency." (1916: 49). Today, this cleared space around the outskirts is very sparing, though the privies that have become customary tend to be a few yards behind the houses and clearance extends just beyond them. There have, however, been interesting changes in housing architecture, to which I shall refer in due course. One significant change in the village "eco-system" has been the gradual elimination of the pig complex.

342 The Pre-contact house was invariably built with a pig
231 enclosure so that man and pig spent the night together. The
657 Australians lost no time in imposing the taboos of their own society: they did not object to human symbiosis with dogs; they even encouraged symbiosis with fowls but regarded symbiosis with pigs as the height of barbarism. The new house designs made no provision for them, so that they were left free to sleep under
231 the houses, or elsewhere, as they wished. Since the Local
657 Government Council was established in 1956, a vigorous campaign was conducted to eliminate them altogether. Thus, Inonda had no pigs in 1966, except for one which belonged to a Sova man who had left it with an Inonda man "to look after," and a very little one that had just been caught in the bush. When the new Sivepa was established in 1965, it was decided that this would be a pigless village; the remaining pigs were left in the old village. In practise, they wandered through the surrounding bush and gardens, so that it became useful to shoot them all as quickly as possible. Other villages, however, had not progressed so far in the direction of the pigless village ideal. Hohorita was indeed nearly pigless when I visited, but this was perhaps because a feast had been held there very recently.

659 Belshaw makes the following remarks about village development:
361 "Before the eruption, a new type of village had been established in the Kokoda sub-district, consisting of a large village square of neatly clipped grass, with houses arranged in a single row along

311 products, such as slow-growing trees, which are used for house
423 posts, drums, and other artifacts. A great deal of Sivepa land is in young bush but this is fallowed garden land. After eight years or so, it grows sizeable trees, and sometimes it is fallowed for much longer. In this bush, many trees may be found that have actually been planted by man and are owned by individuals. Prominent among these are breadfruit, various nut trees, fruit trees and trees with other specific uses. Some of these are
224 deliberately planted in bush. People go to the bush to collect
[222] these, to forage and to hunt. Although hunting expeditions do occur periodically, and cause much excitement, they yield very
[136] little meat. Not only is the area too small to contain much game, but also it appears that very few birds and no game apart from
[411] small marsupials are actually still left. The same is true for the rivers which contain very little fish. I could not help wondering, in fact, whether the meat collected was an adequate
[262] return for the number of cartridges used to kill it. Hunting expeditions occurred only when there was a feast, and when the offering of fresh meat to guests was especially desirable. (Tinned meat might be cheaper than the cartridges but much less esteemed.)

311 In this respect, the situation was very different in Inonda where only a fraction of the land was used for gardening so that almost all of it was hunting land. Most of this was in kunai grass, which was very often burnt over. The effect of these burnings was very often that good garden land also fell a victim to fire,
224 valuable trees were destroyed and villages endangered. The yield
223 in meat was much higher, however, so that in Inonda, meat actually became an economic resource: it was sold on the market and used as gifts in return for feathers and other valuables. There are more birds at Inonda than at Sivepa, more marsupials and also a good chance of an occasional wild pig. Neither at Sivepa nor at Inonda is there evidence today of the use of traditional hunting techniques, though traditional fishing techniques have survived.
[411] The decline in game and fish population is ascribed to the intro-
[213] duction of guns and snorkels which greatly increased yields for some years, but then led to a greater scarcity than had ever been
[199] known in the past. Guns and snorkels were introduced shortly after the second world war.

There are two kinds of domestic livestock: pigs and fowls.
231 The number of pigs has, as I already pointed out, declined greatly in both villages. It was impossible to know how many pigs were owned by Sivepa people in 1966-67, because they disappeared as the old village became deserted and were never seen at all in the new village. Rimoldi reports 24 pigs owned by his sample of 50 Sivepa people alone which suggests that even in 1963, when he stayed there, the whole village must have owned at least 60. During my period of study, only a few of them were killed, and only when

231 they marauded gardens, so that I assume that a good number could
be rounded up if Sivepe were to hold a major feast. They were not
at all accessible, however, and none were caught during such hunting
[422] expeditions as the people organised. On the occasions when marauding
pigs were shot, the pigs were always recognized and presented by
the killer to the owner who then presented his pig to some other
person. No doubt these pigs were a resource and perhaps I was at
fault for not taking a census, but with no pigs visibly in evidence,
I considered these assets as too shadowy. In Inonda, where Crocombe
and Hogbin reported 12 pigs in 1962, only two were left in 1966.
235 My prognosis for pigs as an economic resource is poor. The fowl
[262] population, on the other hand, had remained very much as it was at
these earlier investigations: eggs were discovered and eaten
occasionally, but the use of the fowl was for feasting when visitors
[239] had to be entertained. It was also noticeable that the roosters
[293] were deprived of many of their choicest feathers at a time when
[411] headdresses had to be refurbished for dancing or spears decorated.
[574] At a visit from Togahou, which by traditional etiquette, as I
understand it, should have rated at least one pig, the people of
Sivepe killed only fowls. This was, I was told, because there
were no pigs available; hence the fowls were a proper substitute.
It would seem that the fowl is rapidly becoming the substitute for
the pig on many ceremonial occasions, though not yet for all
occasions.

There is a great shortage of both pigs and fowls for these
438 ceremonial occasions. Pigs are bought for high prices ($20 to
439 $30)--from neighboring villages and even, as Crocombe and Hogbin
[435] say, from European planters. Fowls tend to be made available on
big occasions by whoever has them so that their number does not
increase--a few dozen in each of the two villages.

We may distinguish, among local plant resources which yield
241 economic products, those plants which are native to the district
311 and those which have been introduced by Europeans for cash cropping
purposes. Starting our survey with the former of these two
categories, we shall deal first with food plants and next with
economic trees. I have tabulated average food plants per household
as shown for Rimoldi's Sivepe sample and as shown by Crocombe and
Hogbin for Inonda (Table 7). The pattern for the two places is
remarkably similar except that sweet potato is a notably more
important crop at Inonda than at Sivepe. The reason for this is
that it is more dependable under drought conditions such as often
occur at Inonda and also, it seems to do better at Inonda. The
fact that the Inonda taro acreage is higher than the Sivepe acreage
reflects no more than the higher yield per acre in the latter place.
There is no evidence that any major change occurred in the quantities
grown or the methods of cultivation over the period with which we
are concerned, though a small increase in the consumption of
Xanthosoma taro may be a symptom that people may be starting to

A [See Cat. 116, p. 212--Analyst]

361 Inonda people. They built a da of their own at a very short distance
731 from Inonda; both these da were very close to the airstrip and
628 abandoned now. Although these two da were less than a hundrad yeards apart, they were still two socially distinct units. It sometimes happens, as in the case of Hohovita, to which I shall return, that two such contiguous villages are later joined together into a single one, but this is a deliberate act, involving the slashing down of the intervening brushwood and, ideally, also the removal of houses which would run through the centre of the combined village. If Sewa people had taken up permanent residence in Inonda, such fusion would have occurred, no doubt, but instead they went back to their own land.

621 Sivepe, with its present composition, goes back in time no
361 further than about 1948 when the village Pa[illegible] was built, combining an older Sive and a now defunct village Pusahembo. The census list
[162] current at the time of the eruption still shows the population of the two villages separately, though in fact they had already fused. (Sive 58, Pusahembo 41) I do not know how many residential units there were then, but in Old Sivepe, in 1962, 23 were counted, plus one belonging to the anthropologist. At that time, the population was 120. When I arrived in Sivepe, the new village was only partly completed. Some people lived in new houses; some had not yet built or finished their new houses, but had shifted their old houses from the old to the new village. Others again were still domiciled in the old village, but had declared their intention to start building in the new one "soon." At the time of my arrival, six of the houses in the old village were still inhabited; nine months later, this number had dropped to three, two of the houses being inhabited by widows living alone, while the head of the sole remaining family had almost completed
[231] his house in the new village. At the time of my arrival, a good number of the village pigs were still being kept in the old village (these animals being rigorously barred from the new one) but by the end of my stay, these pigs had all gone to the bush. New Sivepe, at that time, had 25 dwelling units, plus the one rapidly nearing completion. The total number of dwelling units included in the study (28) accommodated 137 people. There was occasional discussion of further increments in the population, as families from Carombi were considering moving in and would have been welcomed.

361 At no time since the eruption did Sivepe exhibit rigorously the village plan that was regarded as ideal. In Old Sivepe 18 out of 23 houses were arranged around the araha in standard fashion, while another five houses had been built outside the village proper, along the old
[426] jeep road, separated from the rest of the village by a gully. The land on which Old Sivepe was built was lent by three individuals from different kinship groups; residents chose their house site irrespective
[423] of their possible ownership of land on the village site. On the other hand, the five houses built outside the village proper were all on land owned by the residents. Though some of these houses were as much as four chains away from the village proper, they were still

621 station. The Horeopa leader, who was the owner of this land, then
361 invited these other clans to come over and make Hohorita into one united big village. When the clans came over in 1959, they followed the same pattern as the Sorovi immigrants followed in Sivepe: they arranged their houses so as to maintain, in a subtle but unmistakable way, their own identity. They formed in effect a second rectangle which formed a harmonious continuation of the first rectangle but which was separated by just half a chain. In 1966, the front and the back half of Hohorita held separate feasts, each inviting a different village. In 1967, the councillor made plans to clear the gap between the two halves, remove the two old houses which emphasised the separation and build new houses in the cleared area to join the rows together.

Around this time, the Sombou people began to establish themselves in Hohorita, leaving their old village behind. I think it was they
[769] who filled the gap between the rows. The councillor had long been at
[775] pains to close down the small villages of Sombou and Kakita and Sombou was finally persuaded after the death of an old migrant who had remained a pagan. As he could not be buried in the Christian cemetery, and people did not feel disposed to carry out the full involved ritual to placate the ghost, they preferred to shift their village. (They thought that pagan ghosts are far more dangerous than Christian ones.)

361 Hohorita, like most resettlement villages, lies along the main
368 road to Popondetta, 11 miles from Popondetta, seven miles from Saiho hospital, three miles from the Higaturu Council chambers. The school, conducted by the mission on Hohorita station, offers an education to the end of Standard 3.

621 The two feasts held in 1966 were intended to introduce into
433 Hohorita the pigless era advocated by all councillors. I arrived a
434 month or two after the feasts and by that time two very small pigs had appeared which were there for a special reason I have forgotten. Sombou and Kakita still had a normal complement of pigs. Coffee was
[231] a somewhat bigger enterprise in Hohorita than at Sivepe. The trees were much better looked after, and there were far more of them. Every
[245] man had his coffee garden and an income of $100 per annum from coffee was normal. Young trees were also being planted at a much faster rate.
[166] Compared to Sivepe, there were very few wives whose husbands were permanently away working. The reason for this was that there are a number of plantations quite close to Hohorita and those who needed to work to pay off bridewealth, etc., could do so without going too far afield. Money to pay taxes and other regular outgoing expenses
464 would come from coffee. Men who were able to find skilled jobs,
167 clerical or professional work usually had their wives with them. An important resource of Hohorita, not shared by Sivepe, is the availability of good jobs within a reasonable distance; the fact that Hohorita families do not break up in the same way as Sivepe ones indicates that such separation is probably economically motivated. It is necessary for a young man to earn his trophies, so to speak, which in the modern world means money, but if he can do it without a prolonged absence from home, he prefers staying home.

liberately endeavored to keep everyone busy, and the men spent much of the time in work gangs (e.g. Monday, Tuesday and Wednesday were usually devoted to house-building; Tuesday, Wednesday and Thursday to gardens; Friday to roads and hygiene). But leadership and organization were creatures of Government, and to some extent of Mission. There were no significant signs of a self-motivated superstructure taking form other than the strengthening of scattered clan ties. Consequently, should larger communities be established with the purpose of preventing the people from scattering out again, they would have to be bureaucratically or theocratically controlled with all the dubious consequences such a situation can entail.

2. Reasonable law and order was being maintained in the new settlements, under the eye of a considerable force of the Papuan Constabulary sent in for the emergency. Opponents of a concentration policy claimed, however, that the older patterns of intergroup hostility and violence are not far enough below the surface to justify the risks involved in larger long-term aggregation. As indicated, problems of land tenure are a major potential source of conflict. Another is "woman trouble," judging from experience in the camps where husbands and wives find themselves in informal association with members of the opposite sex, in contrast to the normal tightly structured small units.

3. Not least among the uncertain factors is that of sorcery. According to those who manage the settlements, fear of coming under the influence of strangers who practice sorcery shows itself as a vague but persistent factor. Most overtly it has emerged in connection with the disposal of waste products in the large camps. In typical Papuan fashion the Orokaiva is extremely secretive in his disposal of faeces and other leavings of his body because of the possibility of their use against him in harmful magic. A crucial question, therefore, has been whether group toilets could provide enough anonymity to forestall opportunities for the practice of sorcery. The problem was dealt with where possible by putting men's and women's latrines over running water. This social-supernatural sanitation problem could be serious where long term settlement of large groups is being planned.

4. On the economic side, no sound basis seems in sight for establishing large permanent communities in the comprehensive manner proposed. As indicated, the familiar pattern of shifting gardens will normally involve seasonal movement outward from the immediate environs of the new settlements where most present cultivations are now being made. As yet, no widespread disposition exists to adopt more intensive sedentary cultivation, although undoubtedly some will be prepared to try to continue cooperative experiments with rice and other crops and, hence, will be amenable to Government and Mission encouragement and aid here. As in socio-political affairs, the responsible organization and leadership would in general have to be provided from outside, with the dependence relationship that this implies. Government might have to continue helping any large community for an indefinite period, as with the mechanized agricultural production it is introducing at the Ilimo camp. In large settlements the technique of handling domestic pigs and chickens, vital sources of protein, is always a difficult

731 [23] problem—and one which the Orokaiva will not be equipped to solve when stocks of these animals are eventually restored. It seems fair to prophesy that as the people become habituated to living in the shadow of the volcano, many of them will quietly "hive off" from the present concentrations and go their familiar economic way. Alternatively, official opposition to this trend could produce growing tensions, including anti-Government hostility.

[557] [749] 5. Other factors can be noted congruent with the above points. Some individuals are said to fear that in larger communities they will face more extensive demands for village maintenance and other Government and Mission needs than under the old patterns of settlement. Belshaw points to a [749] complication of the labor situation in the resettlement areas due to a request by the Mission that its adherents devote some time to building new Mission stations in the area. [748] As indices of the increasing normality of life, there is some revival of dancing and music, as well as keen sports interest.

731 361 On the basis of such factors, the writer ventured to present to the Administrator and a group of his top officials a view opposed to a compulsive concentration policy. He suggested, instead, that three or four main "centers of attraction" be developed outside the danger zone and on the main road, corresponding to the principal ethnic concentrations (Sangara, Isivita, Wasida). Here would be located subdistrict offices, Government boarding schools, medical aid posts, community center houses, experimental garden plots, and other facilities. Housing space could be made available to those desiring to settle around such a center voluntarily and try out more concentrated and sedentary living. The Mission could also use such centers for their stations if it wished. The writer also recommended cutting a series of crossroads more or less at right angles to the main road, and locating each "center of attraction" at a main crossroad point. These secondary roads would serve to draw settlement away from the overcrowded chain of villages that have developed along the one main road. This plan would enable those people who do not wish to be concentrated to scatter out in a wider pattern of dispersal for garden development; it would offer quick routes of escape on foot or in vehicles in case of the threat of further eruptions, ready access for government welfare services, and for transporting commercial crops to market. The writer has subsequently been informed that these proposals in general correspond with the policy which was officially adopted—crossroads have been cut and government centers and facilities have been built up at three key points.

731 799 The second problem referred to earlier, namely the delicate one of Government versus Mission responsibilities, will be discussed only briefly. The Mission teachers claim that the great majority of the mountain Orokaiva are adherents: those remaining outside the church do so by conscious choice. In the wake of the eruption the Anglican authorities sent in a very active, young Bishop who was familiar with the people, to take charge in place of the resident white staff killed at Sangara. Mission medical workers took over some of the important health responsibilities, including a [895] Mission hospital at Oro Bay. "Native" Papuan Mission [892] teachers started elementary vernacular schooling in the camps.

26: Schwimmer E-5 (1966-1970) 1974
OJ23 Orokaiva OJ23

the dead person. At ordinary harvest feasts and bride-wealth payments they are seen on display platforms along with taro and other vegetables. They are then subsidiary to taro and pigs, which are the main food gifts, but at mortuary feasts vast quantities are given, saved from the dead man's palms, which are made taboo until this feast. Dry coconut and areca are strewn on graves by affines of the deceased.

The distinctive features perceived by Orokaiva in each species should also be summarized. Coconut is believed to be a valuable adjunct to the diet of children and dogs (also chickens). In Orokaiva myths, its miraculous effect on children and dogs is often described. To the scientific observer this effect is natural enough as coconut is an important source of first-class protein for both children and dogs, who otherwise do not get much first-class protein. Coconut oil is used as a cosmetic for hair and body not only to enhance beauty but also for its magical efficacy, for the purification of man-slayers (Williams, 1930: 175, 207), and for women who are being initiated or who welcome visitors at dances. In all such cases it is the task of a male to pour the coconut milk over the persons whose magical protection is intended.

Areca, a mildly hallucinogenic fruit, is chewed by women as much as by men. When friends are sitting together, it is shared in much the same way as beer among white Australians. People offer nuts to each other but expect to come out approximately even. Visitors from other villages expect to be offered areca by their hosts. Its main physiological effect is to create a dreamy amiability and to break down hostility that might otherwise exist. Its magical uses, mostly in association with some medicine of more specific purpose, are too many to enumerate. A girl carries a bunch of areca at the ceremony which ends her seclusion after first menstruation. She normally offers it to her man at lovers' meetings.

Although I have a number of coconut and areca myths on record, I shall discuss here only one, the fullest one, which illustrates my argument most clearly. A beautiful girl, noted for her remarkable breasts, had the misfortune of killing all the young men with whom she slept. Her breasts pricked and killed them.